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L1: Entry 1 of 5

File: USPT

Jun 29, 2004

DOCUMENT-IDENTIFIER: US 6757713 B1

TITLE: Method for including a self-removing indicator in a self-removing messageAbstract Text (1):

Methods, articles, signals, and systems are provided for providing email message originators and distributors with default control over message removal at a message recipient's location, regardless of whether the message has been opened. For instance, a self-removing message is designated as such by the message's originator, and a self-removal enhancement is added to conventional message content before the message is transmitted over a computer network toward one or more recipients. At the recipient's location, the message is automatically deleted without additional effort by the recipient, before or after being displayed, according to the originator's instructions unless they are overridden by the recipient. Messages may be automatically deleted in response to the arrival of a replacement message. Thus, the burden of removing unsolicited email messages is transferred from recipients to the system and the message's originators and/or to ISPs and other email distributors. Security of messages may also be enhanced.

Drawing Description Text (4):

FIG. 2 is a data flow diagram illustrating a method, signal, and environment using self-removing messages to carry messages from an originator through a network to one or more recipients.

Detailed Description Text (10):

Personal Messaging with Self-Removing Messages

Detailed Description Text (11):

FIG. 2 illustrates a method and environment using self-removing messages to carry messages from an originator 200 at some origin to one or a few recipients 202. As used here, "a few" means less than ten recipients, or alternatively, a small number of recipients who are personally known to the originator; news items, notices, advertisements and/or other messages directed to more than a few recipients are discussed elsewhere herein, although many of the tools and techniques taught herein apply regardless of whether there are only a few recipients.

Detailed Description Text (12):

During a creating step 204 the originator 200 creates a self-removing message 206 using software and hardware configured by the software, or using custom hardware alone, according to the teachings herein. This may be done generally in accordance with familiar tools and techniques for email messaging, attaching files, embedding graphics, encrypting data, and/or compressing data, but it must associate code and/or hardware 208, and/or indicators 210, with the message 206 to perform or facilitate the self-removal message management functions described here. That is, the originator 200 (or equivalently, an embodiment under the originator's direction) marks the message 206 at the origin, includes removal code 208 in the message 206, or does both. The code 208 may be embedded solely in the message 206, but it may also be embedded in plug-ins, modules, routines, objects, threads, or other forms in an ISP's transmission program 224 and/or a recipient's browser or email reception program 226, or the code 208 may be divided between one or more such locations. Code and/or hardware 208, and indicators 210, are collectively termed "self-removal enhancements" herein.

Detailed Description Text (14):

In embodiments preferred for this present application, the originator 200 or an embodiment under the originator's direction marks the message 206 at the origin with one or more indicators 210 to facilitate the self-removal message management functions described here. In these embodiments, removal code 208 is not included in the message 206. Instead, removal code

208 is embedded in plug-ins, modules, routines, objects, threads, or other forms in a recipient's browser or email reception program 226. However, the initial decision to make a given message be self-removing still rests with the originator 200 (or with an ISP 222), rather than making the recipient 202 actively delete the message.

Detailed Description Text (28):

Note that conventional options for handling attachments may be combined with the removal indicators 210. For instance, conventional email clients such as the Eudora Pro 3.0 program permit one to specify whether an attachment to a message should be deleted when the message is manually deleted. In the present invention, a similar option can specify whether to keep attachments when a self-removing message 206 is automatically deleted.

Detailed Description Text (40):

For instance, an access provider 222 such as AOL, CompuServe, or Prodigy may permit controlled mailings to its members on condition that each message 206 include an indicator 210 that will cause the message 206 to be automatically removed from the recipient member's email "In Box" after the recipient member 202 opens it, unless the recipient 202 actively overrides that removal to save the message's contents 212. Likewise, an ISP could use indicators 210 to implement a promise that authorized email advertisements will consume no more than one half-megabyte of a recipient's hard drive, by having the indicators 210 set to cause automatic deletion of messages from a given list of sources, thereby freeing drive space, when the total space used by all messages from those sources exceeds a storage limit of one half-megabyte. Indicators 210 could likewise indicate that self-removing messages 206 should be removed when the hard drive or partition holding them has only a specified amount of free space left, or when a specified percentage of the total drive/partition space becomes used.

Detailed Description Text (45):

Broadcasting with Self-Removing Messages

Detailed Description Text (46):

The novel tools and techniques illustrated in FIG. 2 can also be used when the originator 200 sends a self-removing message 206 to more than a few recipients 202. For instance, public agencies and private litigants may wish to send messages 206 containing legal notices of the type which are conventionally published in newspapers. In the case of public agencies, email address databases could be compiled in connection with tax payments, corporate and professional license registrations and renewals, driver license registrations and renewals, and similar governmental functions. Care would be taken (and appropriate legislation and/or regulations put in place) to limit or prevent the use of such governmental email address databases by private or quasi-private entities.

Detailed Description Text (47):

However, private entities may appropriately use the invention, in accordance with applicable law, to broadcast self-removing messages 206 to large target audiences. For instance, a business might send registered customers new product announcements or press releases. Likewise, a private club or organization (or a business) might send event announcements to its members (or prospects) using self-removing messages 206. Subscribers to newsletters or other news services may also receive news items in the content 212 of self-removing messages 206.

Detailed Description Text (48):

Advertising and News with Self-Removing Messages

Detailed Description Text (51):

In one embodiment, self-removing email messages 206 contain advertisements of any of a broad range of services and goods which are presently described in unsolicited mass-mailing emails, in website banner ads, in television or radio spots, in newspapers and magazines, and in other forms and media. In one embodiment, they contain news items which are mailed to subscribers who voluntarily provided their email addresses for that purpose. Unlike television, radio, newspapers, and magazines, ads and news sent through the Internet and other electronic media can be relatively inexpensive, targeted, interactive, and/or provide hot links to web sites, newsgroups, IRC channels, and other digital network resources. Like unsolicited emails and banner ads, the messages 206 can be animated, with audio and/or visual components, and hot links. Unlike unsolicited emails and some banner ads, the self-removing message files 206 of the present invention do not require that recipients 202 affirmatively remove unwanted ads or

old news from their computer system disk or create a reply message having REMOVE in the subject, to indicate their lack of interest in the subject matter being advertised, to conserve space, and/or to reduce clutter in their inbox.

Detailed Description Text (61):

More generally, FIG. 3 illustrates methods for using self-removing messages 206 to make email messaging more convenient for message recipients by shifting the burden of message removal from the message recipient 202 to at least one of the message originator 200 and the message distributor 222. Through removal indicators 210 and/or removal code 208 which is associated with message content 212 by the message originator 200 and/or the message distributor 222, the methods provide the message originator 200 and/or the message distributor 222 with initial control over the deletion of a recipient copy of the message content 212 after that content and the self-removal enhancement reach the recipient 202. Unlike prior approaches, the message content copy at the recipient's location may be automatically deleted in response to various criteria, even if the message containing the content 212 has already been opened by the recipient 202. As with other methods of the invention, the methods illustrated by FIG. 3 may be embodied in software which configures a computer storage medium such as a CD, floppy disk, hard drive, ROM, or RAM.

Detailed Description Text (62):

The methods associate message content 212 with a self-removal enhancement such as one or more self-removing message indicators 210. The association between the message contents 212 and the self-removal enhancement is made by the message originator 200, by the message distributor 222, or both. It may be performed by placing removal code 208 in the message (e.g., as an attachment). But it is preferably performed by placing one or more removal indicators 210 in the message (e.g., in an email header or an email subject line) with the content 212.

Detailed Description Text (65):

Inventive methods may be employed by the distributor 222, or by an authorized agent/subcontractor/service/etc. acting for the distributor 222, to verify that self-removing messages 206 are being used to shift the burden of message removal from message recipients 202. For instance, as indicated generally in FIGS. 2 and 3, in some systems the distributor 222 receives at one or more intermediate nodes 220 a message intended for the recipient 202. The distributor 222 etc. may use software 208 to check the message to determine whether the message contains a self-removing message indicator 210. This may check for a particular indicator 210, or for more than one indicator 210, or for at least one indicator 210 from a specified group of indicators 210. Checks for indicator(s) 210 may be performed by reading the email header, email subject line, and/or other expected location(s) of the indicator(s) 210.

Detailed Description Text (66):

The check for a self-removal enhancement in a given message may be triggered by one or more predetermined check triggering criteria which indicate that a self-removing message indicator 210 should be present. A self-removing message indicator 210 itself is not a triggering criterion. In some cases, an indicator 210 or other self-removal enhancement is expected because the message is from an entity that has an agreement with the distributor 222 permitting mass mailings through the distributor 222 subject to use of the self-removal enhancement. For instance, the message may come from a source address on a list of advertisers who have mailing contracts with the distributor 222 or a license to use the distributor's membership email database.

Detailed Description Text (69):

If the checking step at the node 220 determines that the message contains or is otherwise subject to a self-removing message indicator 210 as expected, then the node 220 transmits the message 206 on toward the recipient 202. But if the checking step determines that the message does not contain indicator(s) 210 as expected, then the message may be blocked to prevent further transmittal to the recipient 202, e.g., by being deleted, dropped, or rerouted back to the originator. Alternately, the lack of expected indicator(s) 210 may be remedied by inserting one or more indicators 210 in the message and then transmitting the resulting message 206 from the intermediate node 220 toward the recipient 202.

Detailed Description Text (70):

At the recipient 202 (e.g., at the recipient's mail server and/or at the recipient's laptop, wireless device, or other workstation), removal code 208 checks incoming messages to determine

whether they contain any self-removing message indicators 210 from message originators 200 and/or message distributors 222. The removal code 208 then automatically notifies the recipient 202, removes messages 206, and otherwise proceeds in response to such indicators 210 with each message 206 which contains or is otherwise associated with an indicator 210. Note that deletion instructions provided by the recipient 202 are not indicators 210, since they do not give originators 200 and/or distributors 222 responsibility for, and initial control over, removal of messages at the recipient's location.

Detailed Description Text (95):

Articles of manufacture within the scope of the present invention include a computer-readable storage medium in combination with the specific physical configuration of a substrate of the computer-readable storage medium. The substrate configuration represents data and instructions which cause the computers to operate in a specific and predefined manner as described herein. Suitable storage devices include floppy disks, hard disks, tape, CD-ROMs, RAM, flash memory, and other media readable by one or more of the computers. Each such medium tangibly embodies a program, functions, and/or instructions that are executable by the machines to perform self-removing message creation, transmission, removal, display or other method steps substantially as described herein, including without limitation methods which perform some or all of the steps illustrated in FIG. 2. To the extent permitted by applicable law, programs which perform such methods are also within the scope of the invention.

CLAIMS:

1. A method for using self-removing email messages to shift the burden of message removal from a message recipient to at least one of a message originator and a message distributor, the method comprising the steps of: associating message content with at least one self-removing message indicator to provide at least one of a message originator and a message distributor with initial control over the deletion of a recipient copy of the message content after it reaches the recipient; and transmitting the message content and the self-removing message indicator toward the recipient in at least one email message; wherein the self-removing message indicator indicates that the message is to be deleted automatically in response to a condition involving a replacement message.
2. The method of claim 1, wherein the self-removing message indicator indicates that the message is to be deleted automatically if a replacement message is not received by the recipient by a specified date.
4. The method of claim 1, wherein the self-removing message indicator indicates that the first message is to be deleted automatically if a replacement message is not received by the recipient within a specified period after the first message is received.
6. The method of claim 1, wherein the self-removing message indicator indicates that the message is to be deleted automatically after a replacement message is received by the recipient.
8. The method of claim 1, wherein the associating step associates message content with a self-removing message indicator by placing the indicator in an email message with the content.
9. The method of claim 1, wherein the associating step associates message content with a self-removing message indicator by placing the indicator in an email message which identifies a separate message and the content is provided in the separate message.
17. A method for removing email messages from a recipient's location in response to an instruction from a message originator, the method comprising the steps of: checking an email message at the recipient's location to determine whether it contains a self-removing message indicator from the message originator indicating that the message is to be deleted automatically in response to a condition involving a replacement message; and automatically removing the email message in response to the indicator if the message contains the indicator.
19. The method of claim 17, further comprising the step of sending a reply from the recipient in response to the self-removing message.

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L1: Entry 4 of 5

File: USPT

Nov 26, 2002

DOCUMENT-IDENTIFIER: US 6487586 B2

TITLE: Self-removing email verified or designated as such by a message distributor for the convenience of a recipient

Abstract Text (1):

Methods, articles, signals, and systems are provided for providing email message originators and distributors with default control over message removal at a message recipient's location, regardless of whether the message has been opened. For instance, a self-removing message is designated as such by the message's originator, and a self-removal enhancement is added to conventional message content before the message is transmitted over a computer network toward one or more recipients. At the recipient's location, the message is automatically deleted without additional effort by the recipient, before or after being displayed, according to the originator's instructions unless they are overridden by the recipient. ISPs and other message distributors may identify messages that should be self-removing, and make them self-removing if they are not. Thus, the burden of removing unsolicited email messages is transferred from recipients to the system and the message's originators and/or to ISPs and other email distributors. Security of messages may also be enhanced.

Drawing Description Text (4):

FIG. 2 is a data flow diagram illustrating a method, signal, and environment using self-removing messages to carry messages from an originator through a network to one or more recipients.

Detailed Description Text (10):

Personal Messaging with Self-Removing Messages

Detailed Description Text (11):

FIG. 2 illustrates a method and environment using self-removing messages to carry messages from an originator 200 at some origin to one or a few recipients 202. As used here, "a few" means less than ten recipients, or alternatively, a small number of recipients who are personally known to the originator; news items, notices, advertisements and/or other messages directed to more than a few recipients are discussed elsewhere herein, although many of the tools and techniques taught herein apply regardless of whether there are only a few recipients.

Detailed Description Text (12):

During a creating step 204 the originator 200 creates a self-removing message 206 using software and hardware configured by the software, or using custom hardware alone, according to the teachings herein. This may be done generally in accordance with familiar tools and techniques for email messaging, attaching files, embedding graphics, encrypting data, and/or compressing data, but it must associate code and/or hardware 208, and/or indicators 210, with the message 206 to perform or facilitate the self-removal message management functions described here. That is, the originator 200 (or equivalently, an embodiment under the originator's direction) marks the message 206 at the origin, includes removal code 208 in the message 206, or does both. The code 208 may be embedded solely in the message 206, but it may also be embedded in plug-ins, modules, routines, objects, threads, or other forms in an ISP's transmission program 224 and/or a recipient's browser or email reception program 226, or the code 208 may be divided between one or more such locations. Code and/or hardware 208, and indicators 210, are collectively termed "self-removal enhancements" herein.

Detailed Description Text (14):

In embodiments preferred for this present application, the originator 200 or an embodiment under the originator's direction marks the message 206 at the origin with one or more indicators 210 to facilitate the self-removal message management functions described here. In

these embodiments, removal code 208 is not included in the message 206. Instead, removal code 208 is embedded in plug-ins, modules, routines, objects, threads, or other forms in a recipient's browser or email reception program 226. However, the initial decision to make a given message be self-removing still rests with the originator 200 (or with an ISP 222), rather than making the recipient 202 actively delete the message.

Detailed Description Text (16):

Note that conventional options for handling attachments may be combined with the removal indicators 210. For instance, conventional email clients such as the Eudora Pro 3.0 program permit one to specify whether an attachment to a message should be deleted when the message is manually deleted. In the present invention, a similar option can specify whether to keep attachments when a self-removing message 206 is automatically deleted.

Detailed Description Text (28):

For instance, an access provider 222 such as AOL, CompuServe, or Prodigy may permit controlled mailings to its members on condition that each message 206 include an indicator 210 that will cause the message 206 to be automatically removed from the recipient member's email "In Box" after the recipient member 202 opens it, unless the recipient 202 actively overrides that removal to save the message's contents 212. Likewise, an ISP could use indicators 210 to implement a promise that authorized email advertisements will consume no more than one half-megabyte of a recipient's hard drive, by having the indicators 210 set to cause automatic deletion of messages from a given list of sources, thereby freeing drive space, when the total space used by all messages from those sources exceeds a storage limit of one half-megabyte. Indicators 210 could likewise indicate that self-removing messages 206 should be removed when the hard drive or partition holding them has only a specified amount of free space left, or when a specified percentage of the total drive/partition space becomes used.

Detailed Description Text (33):

Broadcasting with Self-Removing Messages

Detailed Description Text (34):

The novel tools and techniques illustrated in FIG. 2 can also be used when the originator 200 sends a self-removing message 206 to more than a few recipients 202. For instance, public agencies and private litigants may wish to send messages 206 containing legal notices of the type which are conventionally published in newspapers. In the case of public agencies, email address databases could be compiled in connection with tax payments, corporate and professional license registrations and renewals, driver license registrations and renewals, and similar governmental functions. Care would be taken (and appropriate legislation and/or regulations put in place) to limit or prevent the use of such governmental email address databases by private or quasi-private entities.

Detailed Description Text (35):

However, private entities may appropriately use the invention, in accordance with applicable law, to broadcast self-removing messages 206 to large target audiences. For instance, a business might send registered customers new product announcements or press releases. Likewise, a private club or organization (or a business) might send event announcements to its members (or prospects) using self-removing messages 206. Subscribers to newsletters or other news services may also receive news items in the content 212 of self-removing messages 206.

Detailed Description Text (36):

Advertising and News with Self-Removing Messages

Detailed Description Text (39):

In one embodiment, self-removing email messages 206 contain advertisements of any of a broad range of services and goods which are presently described in unsolicited mass-mailing emails, in website banner ads, in television or radio spots, in newspapers and magazines, and in other forms and media. In one embodiment, they contain news items which are mailed to subscribers who voluntarily provided their email addresses for that purpose. Unlike television, radio, newspapers, and magazines, ads and news sent through the Internet and other electronic media can be relatively inexpensive, targeted, interactive, and/or provide hot links to web sites, newsgroups, IRC channels, and other digital network resources. Like unsolicited emails and banner ads, the messages 206 can be animated, with audio and/or visual components, and hot links. Unlike unsolicited emails and some banner ads, the self-removing message files 206 of

the present invention do not require that recipients 202 affirmatively remove unwanted ads or old news from their computer system disk or create a reply message having REMOVE in the subject, to indicate their lack of interest in the subject matter being advertised, to conserve space, and/or to reduce clutter in their inbox.

Detailed Description Text (49):

More generally, FIG. 3 illustrates methods for using self-removing messages 206 to make email messaging more convenient for message recipients by shifting the burden of message removal from the message recipient 202 to at least one of the message originator 200 and the message distributor 222. Through removal indicators 210 and/or removal code 208 which is associated with message content 212 by the message originator 200 and/or the message distributor 222, the methods provide the message originator 200 and/or the message distributor 222 with initial control over the deletion of a recipient copy of the message content 212 after that content and the self-removal enhancement reach the recipient 202. Unlike prior approaches, the message content copy at the recipient's location may be automatically deleted in response to various criteria, even if the message containing the content 212 has already been opened by the recipient 202. As with other methods of the invention, the methods illustrated by FIG. 3 may be embodied in software which configures a computer storage medium such as a CD, floppy disk, hard drive, ROM, or RAM.

Detailed Description Text (50):

The methods associate message content 212 with a self-removal enhancement such as one or more self-removing message indicators 210. The association between the message contents 212 and the self-removal enhancement is made by the message originator 200, by the message distributor 222, or both. It may be performed by placing removal code 208 in the message (e.g., as an attachment). But it is preferably performed by placing one or more removal indicators 210 in the message (e.g., in an email header or an email subject line) with the content 212.

Detailed Description Text (53):

Inventive methods may be employed by the distributor 222, or by an authorized agent/subcontractor/service/etc. acting for the distributor 222, to verify that self-removing messages 206 are being used to shift the burden of message removal from message recipients 202. For instance, as indicated generally in FIGS. 2 and 3, in some systems the distributor 222 receives at one or more intermediate nodes 220 a message intended for the recipient 202. The distributor 222 etc. may use software 208 to check the message to determine whether the message contains a self-removing message indicator 210. This may check for a particular indicator 210, or for more than one indicator 210, or for at least one indicator 210 from a specified group of indicators 210. Checks for indicator(s) 210 may be performed by reading the email header, email subject line, and/or other expected location(s) of the indicator(s) 210.

Detailed Description Text (54):

The check for a self-removal enhancement in a given message may be triggered by one or more predetermined check triggering criteria which indicate that a self-removing message indicator 210 should be present. A self-removing message indicator 210 itself is not a triggering criterion. In some cases, an indicator 210 or other self-removal enhancement is expected because the message is from an entity that has an agreement with the distributor 222 permitting mass mailings through the distributor 222 subject to use of the self-removal enhancement. For instance, the message may come from a source address on a list of advertisers who have mailing contracts with the distributor 222 or a license to use the distributor's membership email database.

Detailed Description Text (57):

If the checking step at the node 220 determines that the message contains or is otherwise subject to a self-removing message indicator 210 as expected, then the node 220 transmits the message 206 on toward the recipient 202. But if the checking step determines that the message does not contain indicator(s) 210 as expected, then the message may be blocked to prevent further transmittal to the recipient 202, e.g., by being deleted, dropped, or rerouted back to the originator. Alternately, the lack of expected indicator(s) 210 may be remedied by inserting one or more indicators 210 in the message and then transmitting the resulting message 206 from the intermediate node 220 toward the recipient 202.

Detailed Description Text (58):

At the recipient 202 (e.g., at the recipient's mail server and/or at the recipient's laptop,

wireless device, or other workstation), removal code 208 checks incoming messages to determine whether they contain any self-removing message indicators 210 from message originators 200 and/or message distributors 222. The removal code 208 then automatically notifies the recipient 202, removes messages 206, and otherwise proceeds in response to such indicators 210 with each message 206 which contains or is otherwise associated with an indicator 210. Note that deletion instructions provided by the recipient 202 are not indicators 210, since they do not give originators 200 and/or distributors 222 responsibility for, and initial control over, removal of messages at the recipient's location.

Detailed Description Text (83):

Articles of manufacture within the scope of the present invention include a computer-readable storage medium in combination with the specific physical configuration of a substrate of the computer-readable storage medium. The substrate configuration represents data and instructions which cause the computers to operate in a specific and predefined manner as described herein. Suitable storage devices include floppy disks, hard disks, tape, CD-ROMs, RAM, flash memory, and other media readable by one or more of the computers. Each such medium tangibly embodies a program, functions, and/or instructions that are executable by the machines to perform self-removing message creation, transmission, removal, display or other method steps substantially as described herein, including without limitation methods which perform some or all of the steps illustrated in FIG. 2. To the extent permitted by applicable law, programs which perform such methods are also within the scope of the invention.

CLAIMS:

1. A method for use by a distributor to verify that self-removing messages are being used to shift the burden of message removal from a message recipient, the method comprising the steps by or for the distributor of: receiving at an intermediate node a message, from an originator other than the distributor, which is intended for a recipient; determining that the message meets at least one check triggering criterion and should therefore contain a self-removing message indicator; and checking the message to determine whether the message contains a self-removing message indicator.
2. The method of claim 1, wherein the checking step determines that the message does not contain a self-removing message indicator, and the method further comprises inserting a self-removing message indicator in the message and then transmitting the message from the intermediate node toward the recipient.
3. The method of claim 1, wherein the checking step determines that the message does not contain a self-removing message indicator, and the method further comprises preventing transmittal of the message to the recipient.
4. The method of claim 1, wherein the checking step determines that the message contains a self-removing message indicator, and the method further comprises transmitting the message from the intermediate node toward the recipient.
5. The method of claim 4, wherein the method further comprises stripping out the self-removing message indicator before transmitting the message to the recipient.
7. A method for removing email messages from a recipient's location in response to an instruction from an ISP which is not the originator of the email messages, the method comprising the steps of: checking an email message at the recipient's location to determine whether it contains a self-removing message indicator inserted by the ISP at an intermediate node indicating that the message is to be deleted automatically; and automatically removing the email message in response to the indicator if the message contains the indicator.
17. The intermediate node of claim 16, further comprising code allowing the message distributor to insert a self-removing message indicator in a message.
18. The intermediate node of claim 17, wherein the self-removing message indicator indicates the message will be automatically deleted in response to a specified storage space condition.
19. The intermediate node of claim 17, wherein the self-removing message indicator indicates the message will be automatically deleted in response to a replacement message.

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L1: Entry 3 of 5

File: USPT

Mar 2, 2004

DOCUMENT-IDENTIFIER: US 6701347 B1

TITLE: Method for including a self-removing code in a self-removing email message that contains an advertisement

Abstract Text (1):

Methods, articles, signals, and systems are provided for providing unsolicited email message originators with default control over message removal at a message recipient's location, regardless of whether the unsolicited message has been opened. For instance, a self-removing message is designated as such by the message's originator, and a self-removal enhancement is added to conventional message content such as advertising before the message is transmitted over a computer network toward recipients. At a given recipient's location, the message is automatically deleted without additional effort by the recipient, before or after being displayed, according to the originator's instructions unless they are overridden by the recipient. Thus, the burden of removing unsolicited email messages is transferred from recipients to the message's originators.

Drawing Description Text (4):

FIG. 2 is a data flow diagram illustrating a method, signal, and environment using self-removing messages to carry messages from an originator through a network to one or more recipients.

Detailed Description Text (10):

Personal Messaging with Self-removing Messages

Detailed Description Text (11):

FIG. 2 illustrates a method and environment using self-removing messages to carry messages from an originator 200 at some origin to one or a few recipients 202. As used here, "a few" means less than ten recipients, or alternatively, a small number of recipients who are personally known to the originator; news items, notices, advertisements and/or other messages directed to more than a few recipients are discussed elsewhere herein, although many of the tools and techniques taught herein apply regardless of whether there are only a few recipients.

Detailed Description Text (12):

During a creating step 204 the originator 200 creates a self-removing message 206 using software and hardware configured by the software, or using custom hardware alone, according to the teachings herein. This may be done generally in accordance with familiar tools and techniques for email messaging, attaching files, embedding graphics, encrypting data, and/or compressing data, but it must associate code and/or hardware 208, and/or indicators 210, with the message 206 to perform or facilitate the self-removal message management functions described here. That is, the originator 200 (or equivalently, an embodiment under the originator's direction) marks the message 206 at the origin, includes removal code 208 in the message 206, or does both. The code 208 may be embedded solely in the message 206, but it may also be embedded in plug-ins, modules, routines, objects, threads, or other forms in an ISP's transmission program 224 and/or a recipient's browser or email reception program 226, or the code 208 may be divided between one or more such locations. Code and/or hardware 208, and indicators 210, are collectively termed "self-removal enhancements" herein.

Detailed Description Text (14):

In embodiments preferred for this present application, the originator 200 or an embodiment under the originator's direction marks the message 206 at the origin with one or more indicators 210 to facilitate the self-removal message management functions described here. In these embodiments, removal code 208 is not included in the message 206. Instead, removal code 208 is embedded in plug-ins, modules, routines, objects, threads, or other forms in a

recipient's browser or email reception program 226. However, the initial decision to make a given message be self-removing still rests with the originator 200 (or with an ISP 222), rather than making the recipient 202 actively delete the message.

Detailed Description Text (28):

Note that conventional options for handling attachments may be combined with the removal indicators 210. For instance, conventional email clients such as the Eudora Pro 3.0 program permit one to specify whether an attachment to a message should be deleted when the message is manually deleted. In the present invention, a similar option can specify whether to keep attachments when a self-removing message 206 is automatically deleted.

Detailed Description Text (40):

For instance, an access provider 222 such as AOL, CompuServe, or Prodigy may permit controlled mailings to its members on condition that each message 206 include an indicator 210 that will cause the message 206 to be automatically removed from the recipient member's email "In Box" after the recipient member 202 opens it, unless the recipient 202 actively overrides that removal to save the message's contents 212. Likewise, an ISP could use indicators 210 to implement a promise that authorized email advertisements will consume no more than one half-megabyte of a recipient's hard drive, by having the indicators 210 set to cause automatic deletion of messages from a given list of sources, thereby freeing drive space, when the total space used by all messages from those sources exceeds a storage limit of one half-megabyte. Indicators 210 could likewise indicate that self-removing messages 206 should be removed when the hard drive or partition holding them has only a specified amount of free space left, or when a specified percentage of the total drive/partition space becomes used.

Detailed Description Text (45):

Broadcasting with Self-removing Messages

Detailed Description Text (46):

The novel tools and techniques illustrated in FIG. 2 can also be used when the originator 200 sends a self-removing message 206 to more than a few recipients 202. For instance, public agencies and private litigants may wish to send messages 206 containing legal notices of the type which are conventionally published in newspapers. In the case of public agencies, email address databases could be compiled in connection with tax payments, corporate and professional license registrations and renewals, driver license registrations and renewals, and similar governmental functions. Care would be taken (and appropriate legislation and/or regulations put in place) to limit or prevent the use of such governmental email address databases by private or quasi-private entities.

Detailed Description Text (47):

However, private entities may appropriately use the invention, in accordance with applicable law, to broadcast self-removing messages 206 to large target audiences. For instance, a business might send registered customers new product announcements or press releases. Likewise, a private club or organization (or a business) might send event announcements to its members (or prospects) using self-removing messages 206. Subscribers to newsletters or other news services may also receive news items in the content 212 of self-removing messages 206.

Detailed Description Text (48):

Advertising and News with Self-removing Messages

Detailed Description Text (51):

In one embodiment, self-removing email messages 206 contain advertisements of any of a broad range of services and goods which are presently described in unsolicited mass-mailing emails, in website banner ads, in television or radio spots, in newspapers and magazines, and in other forms and media. In one embodiment, they contain news items which are mailed to subscribers who voluntarily provided their email addresses for that purpose. Unlike television, radio, newspapers, and magazines, ads and news sent through the Internet and other electronic media can be relatively inexpensive, targeted, interactive, and/or provide hot links to web sites, newsgroups, IRC channels, and other digital network resources. Like unsolicited emails and banner ads, the messages 206 can be animated, with audio and/or visual components, and hot links. Unlike unsolicited emails and some banner ads, the self-removing message files 206 of the present invention do not require that recipients 202 affirmatively remove unwanted ads or old news from their computer system disk or create a reply message having REMOVE in the

subject, to indicate their lack of interest in the subject matter being advertised, to conserve space, and/or to reduce clutter in their inbox.

Detailed Description Text (61):

More generally, FIG. 3 illustrates methods for using self-removing messages 206 to make email messaging more convenient for message recipients by shifting the burden of message removal from the message recipient 202 to at least one of the message originator 200 and the message distributor 222. Through removal indicators 210 and/or removal code 208 which is associated with message content 212 by the message originator 200 and/or the message distributor 222, the methods provide the message originator 200 and/or the message distributor 222 with initial control over the deletion of a recipient copy of the message content 212 after that content and the self-removal enhancement reach the recipient 202. Unlike prior approaches, the message content copy at the recipient's location may be automatically deleted in response to various criteria, even if the message containing the content 212 has already been opened by the recipient 202. As with other methods of the invention, the methods illustrated by FIG. 3 may be embodied in software which configures a computer storage medium such as a CD, floppy disk, hard drive, ROM, or RAM.

Detailed Description Text (62):

The methods associate message content 212 with a self-removal enhancement such as one or more self-removing message indicators 210. The association between the message contents 212 and the self-removal enhancement is made by the message originator 200, by the message distributor 222, or both. It may be performed by placing removal code 208 in the message (e.g., as an attachment). But it is preferably performed by placing one or more removal indicators 210 in the message (e.g., in an email header or an email subject line) with the content 212.

Detailed Description Text (65):

Inventive methods may be employed by the distributor 222, or by an authorized agent/subcontractor/service/etc. acting for the distributor 222, to verify that self-removing messages 206 are being used to shift the burden of message removal from message recipients 202. For instance, as indicated generally in FIGS. 2 and 3, in some systems the distributor 222 receives at one or more intermediate nodes 220 a message intended for the recipient 202. The distributor 222 etc. may use software 208 to check the message to determine whether the message contains a self-removing message indicator 210. This may check for a particular indicator 210, or for more than one indicator 210, or for at least one indicator 210 from a specified group of indicators 210. Checks for indicator(s) 210 may be performed by reading the email header, email subject line, and/or other expected location(s) of the indicator(s) 210.

Detailed Description Text (66):

The check for a self-removal enhancement in a given message may be triggered by one or more predetermined check triggering criteria which indicate that a self-removing message indicator 210 should be present. A self-removing message indicator 210 itself is not a triggering criterion. In some cases, an indicator 210 or other self-removal enhancement is expected because the message is from an entity that has an agreement with the distributor 222 permitting mass mailings through the distributor 222 subject to use of the self-removal enhancement. For instance, the message may come from a source address on a list of advertisers who have mailing contracts with the distributor 222 or a license to use the distributor's membership email database.

Detailed Description Text (69):

If the checking step at the node 220 determines that the message contains or is otherwise subject to a self-removing message indicator 210 as expected, then the node 220 transmits the message 206 on toward the recipient 202. But if the checking step determines that the message does not contain indicator(s) 210 as expected, then the message may be blocked to prevent further transmittal to the recipient 202, e.g., by being deleted, dropped, or rerouted back to the originator. Alternately, the lack of expected indicator(s) 210 may be remedied by inserting one or more indicators 210 in the message and then transmitting the resulting message 206 from the intermediate node 220 toward the recipient 202.

Detailed Description Text (70):

At the recipient 202 (e.g., at the recipient's mail server and/or at the recipient's laptop, wireless device, or other workstation), removal code 208 checks incoming messages to determine whether they contain any self-removing message indicators 210 from message originators 200

and/or message distributors 222. The removal code 208 then automatically notifies the recipient 202, removes messages 206, and otherwise proceeds in response to such indicators 210 with each message 206 which contains or is otherwise associated with an indicator 210. Note that deletion instructions provided by the recipient 202 are not indicators 210, since they do not give originators 200 and/or distributors 222 responsibility for, and initial control over, removal of messages at the recipient's location.

Detailed Description Text (95):

Articles of manufacture within the scope of the present invention include a computer-readable storage medium in combination with the specific physical configuration of a substrate of the computer-readable storage medium. The substrate configuration represents data and instructions which cause the computers to operate in a specific and predefined manner as described herein. Suitable storage devices include floppy disks, hard disks, tape, CD-ROMs, RAM, flash memory, and other media readable by one or more of the computers. Each such medium tangibly embodies a program, functions, and/or instructions that are executable by the machines to perform self-removing message creation, transmission, removal, display or other method steps substantially as described herein, including without limitation methods which perform some or all of the steps illustrated in FIG. 2. To the extent permitted by applicable law, programs which perform such methods are also within the scope of the invention.

CLAIMS:

2. The method of claim 1, wherein the creating step comprises marking a message at the origin with a self-removing message indicator.
6. The method of claim 1, wherein the method comprises creating and transmitting a self-removing message having advertising contents which include a product announcement.
7. The method of claim 1, wherein the method comprises creating and transmitting a self-removing message having advertising contents which include a press release.
8. The method of claim 1, wherein the method comprises creating and transmitting a self-removing message having advertising contents which include an event announcement.
10. The configured medium of claim 9, wherein the creating step comprises marking a message at the origin with a self-removing message indicator.
14. The configured medium of claim 9, wherein the method comprises creating and transmitting a self-removing message having advertising contents which include a product announcement.
15. The configured medium of claim 9, wherein the method comprises creating and transmitting a self-removing message having advertising contents which include a press release.
16. The configured medium of claim 9, wherein the method comprises creating and transmitting a self-removing message having advertising contents which include an event announcement.
18. The system of claim 17, wherein the creating means comprises means for marking a message at the origin with a self-removing message indicator.

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